

In the Claims

Please amend claims 10, 13, 14, 18, 19, 21, 23, 27 and 28 as follows:

1 1-9. (Canceled.)

1 10. (Currently Amended) An apparatus for selectively forming a silicide
2 comprising:

3 a semiconductor substrate having a surface, a portion of said surface having
4 silicon thereon and a portion of said surface having an insulator thereon,
5 said surface further having an oxide thereover;

6 a mainframe housing chamber ~~comprising a plurality of at least an interior~~
7 cleaning chambers, ~~at least one interior chamber adapted to remove for~~
8 removing said oxide from said surface of said substrate while under a
9 continuous vacuum, and ~~at least one an~~ interior deposition chamber
10 ~~adapted to deposit for depositing~~ a metal on said surface of said substrate
11 while under said continuous vacuum;

12 at least one workpiece holder within said mainframe chamber adapted to hold
13 said substrate;

14 at least one pump adapted to evacuate said mainframe chamber to maintain
15 said continuous vacuum in said mainframe chamber;

16 at least one line operatively connected between said at least one pump and
 17 said mainframe chamber for evacuating said mainframe chamber;
 18 at least one input line adapted to provide a chemical agent into said interior
 19 cleaning chamber within said mainframe while ~~in~~under said continuous
 20 vacuum, said chemical agent adapted to remove said oxide from said
 21 surface of said substrate;
 22 at least one output line adapted to remove said cleaning agent and said
 23 removed oxide from said interior cleaning chamber and said mainframe;
 24 a reactor in said deposition chamber within said mainframe, said reactor
 25 adapted to deposit said metal onto said silicon and insulator portions on
 26 said substrate surface while under~~in~~ said continuous vacuum;
 27 a heating element, said heating element adapted to heat said substrate to an
 28 elevated temperature to form a silicide on said substrate surface over the
 29 silicon portion by reaction with the metal deposited thereon, while the
 30 metal remains unreacted over the insulator portion; and
 31 an etchant to remove unreacted metal from the substrate surface while leaving
 32 said silicide over portions of said semiconductor substrate.

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1 11. (Canceled.)

1 12. (Canceled.)

1 13. (Currently Amended) The apparatus of claim 10 further comprising ~~at least~~
2 ~~one~~ an interior heating chamber within said mainframe for heating ~~adapted to heat~~
3 ~~said substrate to form said silicide on said substrate surface.~~

1 14. (Currently Amended) The apparatus of claim ~~13~~ 14 wherein said apparatus
2 is adapted to transfer said substrate between said interior cleaning chamber
3 ~~adapted to remove said oxide from said surface of said substrate and said interior~~
4 deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
5 without breaking said continuous vacuum.

1 15. (Original) The apparatus of claim 14 wherein said substrate is a silicon
2 substrate.

1 16. (Original) The apparatus of claim 15 wherein said apparatus is adapted to
2 remove said oxide from said surface of said substrate using a nitrogen trifluoride
3 cleaning process.

1 17. (Original) The apparatus of claim 16 wherein said metal is cobalt.

1 18. (Currently Amended) The apparatus of claim 17 wherein said interior
 2 deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
 3 is a vapor sputtering device.

1 19. (Currently Amended) The apparatus of claim 18 wherein said apparatus is
 2 further adapted to transfer said substrate to said interior heating chamber from said
 3 interior ~~metal~~ deposition chamber.

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 1 20. (Original) The apparatus of claim 19 wherein said silicide is cobalt silicide.

2 21. (Currently Amended) A system for selectively forming a silicide on a
 3 surface of a semiconductor substrate comprising:

4 said semiconductor substrate having said surface, a portion of said surface
 5 having silicon thereon and a portion of said surface having an insulator
 6 thereon, said surface further having an oxide thereover;

7 a ~~chamber~~ mainframe comprising a ~~plurality of~~ at least an interior ~~chambers,~~ at
 8 ~~least one interior~~ cleaning chamber adapted to remove said oxide from said
 9 surface of said substrate while under a continuous vacuum, and at least ~~one~~
 10 an interior deposition chamber adapted to deposit a metal on said surface
 of said substrate while under said continuous vacuum;

11 at least one pump adapted to evacuate said mainframe chamber to maintain
 12 said continuous vacuum in said mainframe chamber;
 13 a chemical agent input into said interior cleaning chamber within said
 14 mainframe, said chemical agent for removing adapted to remove said oxide
 15 from said surface of said substrate while ~~said chamber is under~~ said
 16 continuous vacuum;
 17 a reactor in said deposition chamber within said mainframe, said reactor for
 18 depositing adapted to deposit said metal onto said silicon and insulator
 19 portions on said substrate surface while under said continuous vacuum;
 20 a heating element, said heating element adapted to heat said substrate to an
 21 elevated temperature to form a silicide on said substrate surface over the
 22 silicon portion by reaction with the metal deposited thereon, while the
 23 metal remains unreacted over the insulator portion; and
 24 an etchant to remove unreacted metal from the substrate surface while leaving
 25 said silicide over portions of said semiconductor substrate.

1 22. (Canceled.)

1 23. (Currently Amended) The system of claim 21 wherein said apparatus is
 2 adapted to transfer said substrate between said interior cleaning chamber adapted
 3 ~~to remove said oxide from said surface of said substrate and said interior~~

4 | deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
5 | without breaking said continuous vacuum.

1 | 24. (Previously Added) The system of claim 21 wherein said metal is cobalt.

1 | 25. (Previously Added) The system of claim 21 wherein said chemical agent is
2 | selected from the group consisting of nitrogen trifluoride and argon.

1 | 26. (Previously Added) The system of claim 21 wherein said reactor for
2 | depositing said metal on said surface of said substrate is a vapor sputtering device.

1 | 27. (Currently Amended) The system of claim 21 wherein said heating element
2 | is enoused ~~resides within said mainframe~~ chamber.

1 | 28. (Currently Amended) The system of claim 21 wherein said heating element
2 | is external thereto said mainframe chamber.

1 | 29. (Previously Added) The system of claim 21 wherein said unreacted cobalt
2 | is removed using an etchant comprising hydrogen peroxide and sulfuric acid.

1 | 30. (Canceled.)
